

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/818,331 <b>Examiner</b>	CASE ET AL. <b>Art Unit</b>	
	Huyen X. Vo	2655	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 7/27/2005.
2.  The allowed claim(s) is/are 1-7 and 9-20.
3.  The drawings filed on 27 March 2001 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Jeremy J. Curcuri on 8/8/2005. The application has been amended as follows:

**Claim 8 has been cancelled.**

**Claim 9 has been amended to depend on claim 1.**

**Claim 1 has been amended as follow:**

1. A method for converting text to concatenated voice by utilizing a digital voice library and a set of playback rules, the digital voice library including a plurality of speech items and a corresponding plurality of voice recordings wherein each speech item corresponds to at least one available voice recording wherein multiple voice recordings that correspond to a single speech item represent various inflections of that single speech item, the method including receiving text data, converting the text data into a sequence of speech items in accordance with the digital voice library, the method further comprising:

determining a syllable count for each speech item in the sequence of speech items;

determining an impact value for each speech item in the sequence of speech items, the impact values being determinative of where inflection changes are to take place within the sequence of speech items;

determining a desired inflection for each speech item in the sequence of speech items based on the syllable count and the impact value for the particular speech item and further based on the set of playback rules;

determining a sequence of voice recordings by determining a voice recording for each speech item based on the desired inflection for the particular speech item and based on the available voice recordings that correspond to the particular speech item;

generating voice data based on the sequence of voice recordings by concatenating adjacent recordings in the sequence of voice recordings; and

determining a pitch value for each speech item in the sequence of speech items by normalizing the impact value for the particular speech item, wherein the desired inflection for each speech item is further based on the pitch value for the particular speech item.

#### ***Allowable Subject Matter***

2. Claims 1-7 and 9-20 are allowed over prior art of record. The following is an examiner's statement of reasons for allowance: Coorman et al. disclose a method for converting text to concatenated voice by utilizing a digital voice library and a set of

playback rules, the method comprising: a large speech database; a waveform selector that selects a sequence of waveforms referenced by the database, wherein the waveform selector attributes, to at least one waveform candidate, a cost, wherein the cost is a function of individual costs associated with each of a plurality of features, and wherein at least one individual cost is determined using a cost function that has a region that approximates a flat bottom; and a speech waveform concatenator in communication with the speech database that concatenates the waveforms selected by the speech waveform selector to produce a speech signal output (*referring to Coorman reference*). Conkie (US 6173263) teach method and system are provided for performing concatenative speech synthesis using half-phonemes to allow the full utilization of both diphone synthesis and unit selection techniques in order to provide synthesis quality that can combine intelligibility achieved using diphone synthesis with a naturalness achieved using unit selection (see *Conkie reference*). Both Coorman et al. and Conkie fail to specifically disclose the steps of determining an impact value for each speech item in the sequence of speech items, the impact values being determinative of where inflection changes are to take place within the sequence of speech items; determining a desired inflection for each speech item in the sequence of speech items based on the syllable count and the impact value for the particular speech item and further based on the set of playback rules; and determining a pitch value for each speech item in the sequence of speech items by normalizing the impact value for the particular speech item, wherein the desired inflection for each speech item is further based on the pitch value for the particular speech item. Coorman et al. also fail to

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specifically disclose the method wherein the playback rules dictate that the desired inflection for a glue item is based on the desired inflection for surrounding payload items and that the desired inflection for a payload item is based on the desired inflection for nearest payload items with priority being given to speech items having a greater pitch value such that the desired inflections are determined first for speech items having the greatest pitch value and, thereafter, are determined for speech items in order of descending pitch. Furthermore, it would have not been obvious to one of ordinary skill in the art at the time of invention to modify Coorman et al. and/or Conkie to obtain the claimed invention. Therefore, claims 1-7 and 9-20 are allowed over prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HXV

8/8/2005

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SUSAN MCFAADDEN  
PRIMARY EXAMINER